

CLAIM AMENDMENTS:

Please amend Claims 1, 2, 4, 8, 9, and 10, as follows:

1. (Currently Amended) A process for forming a silicon-based thin film by high-frequency plasma chemical vapor deposition, ~~wherein~~ comprising the steps of providing a material gas containing silicon fluoride and hydrogen ~~are contained in a material gas,~~ and adding oxygen to the material gas, whereby oxygen ~~atoms are incorporated~~ contained in the material gas in a concentration of from 0.1 ppm to 0.5 ppm based on a concentration of silicon atoms.

2. (Currently Amended) The process according to Claim 1, wherein the step of providing the material gas is performed so that the hydrogen in the material gas is fed at a flow rate not lower than a flow rate of the silicon fluoride.

3. (Previously Amended) The process according to Claim 1, wherein the silicon-based thin film is formed at a pressure of 50 mTorr or higher.

4. (Currently Amended) A silicon-based thin film formed by high-frequency plasma chemical vapor deposition, the silicon-based thin film having been formed under conditions that silicon fluoride and hydrogen ~~are contained~~ provided in a material gas, and oxygen is added to the material gas so that oxygen ~~atoms are incorporated~~ in the material gas in a concentration of from 0.1 ppm to 0.5 ppm based on a concentration of silicon atoms.

5. (Previously Amended) The silicon-based thin film according to Claim 4, which contains the oxygen atoms in an amount of from  $1.5 \times 10^{18}$  atoms/cm<sup>3</sup> to  $5.0 \times 10^{19}$  atoms/cm<sup>3</sup>.

6. (Previously Amended) The silicon-based thin film according to Claim 4, wherein the hydrogen in the material gas has been fed at a flow rate not lower than a flow rate of the silicon fluoride.

7. (Previously Amended) The silicon-based thin film according to Claim 4, wherein the silicon-based thin film has been formed at a pressure of 50 mTorr or higher.

8. (Currently Amended) The silicon-based thin film according to Claim 4, wherein the silicon-type thin film has a Raman scattering intensity due to a crystalline component, which intensity is at least three times the Raman scattering intensity due to amorphous component.

9. (Currently Amended) The silicon-based thin film according to Claim 4, wherein the silicon-based thin film has a diffraction intensity of the (220)-plane, as measured by X-ray or electron-ray diffraction, which is in a proportion of 50% or more with respect to the total diffraction intensity.

10. (Currently Amended) A photovoltaic device comprising a substrate, and ~~formed thereon~~ a semiconductor layer disposed on said substrate and having at least one set of p-i-n junction, wherein at least one i-type semiconductor layer has been formed by a process for forming a silicon-based thin film by high-frequency plasma chemical vapor deposition, the i-type semiconductor layer having been formed under conditions that silicon fluoride and hydrogen are contained in a material gas and oxygen is added to the material gas so that oxygen atoms are incorporated in the material gas in a concentration of from 0.1 ppm to 0.5 ppm based on a concentration of silicon atoms.

11. (Original) The photovoltaic device according to Claim 10, wherein the I-type semiconductor layer contains the oxygen atoms in an amount of from  $1.5 \times 10^{18}$  atoms/cm<sup>3</sup> to  $5.0 \times 10^{19}$  atoms/cm<sup>3</sup>.

12. (Previously Amended) The photovoltaic device according to Claim 10, wherein the hydrogen in the material gas has been fed at a flow rate not lower than a flow rate of the silicon fluoride.

13. (Original) The photovoltaic device according to Claim 10, wherein the I-type semiconductor layer has been formed at a pressure of 50 mTorr or higher.

14. (Original) The photovoltaic device according to Claim 10, wherein the I-type semiconductor layer has a Raman scattering intensity due to crystalline component which intensity is at least three times the Raman scattering intensity due to amorphous component.

15. (Original) The photovoltaic device according to Claim 10, wherein the I-type semiconductor layer has a diffraction intensity of the (220)-plane as measured by X-ray or electron-ray diffraction, which is in a proportion of 50% or more with respect to the total diffraction intensity.

16. - 21. (Cancelled)